Aug. 26, 1952 G. B. STONE 2,607,937

ADJUSTABLE RAMP

Filed May 11, 1950 2 SHEETS—SHEET 1

Fig. 1

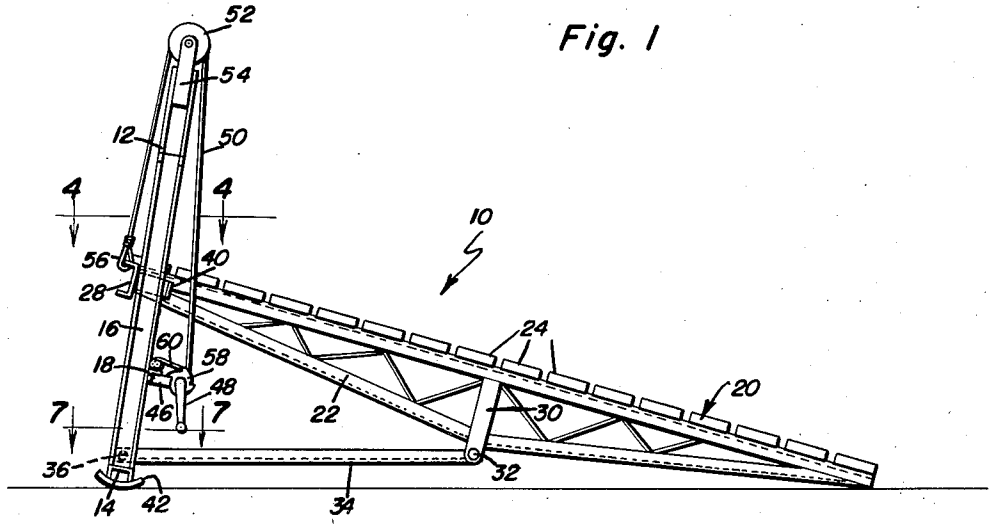
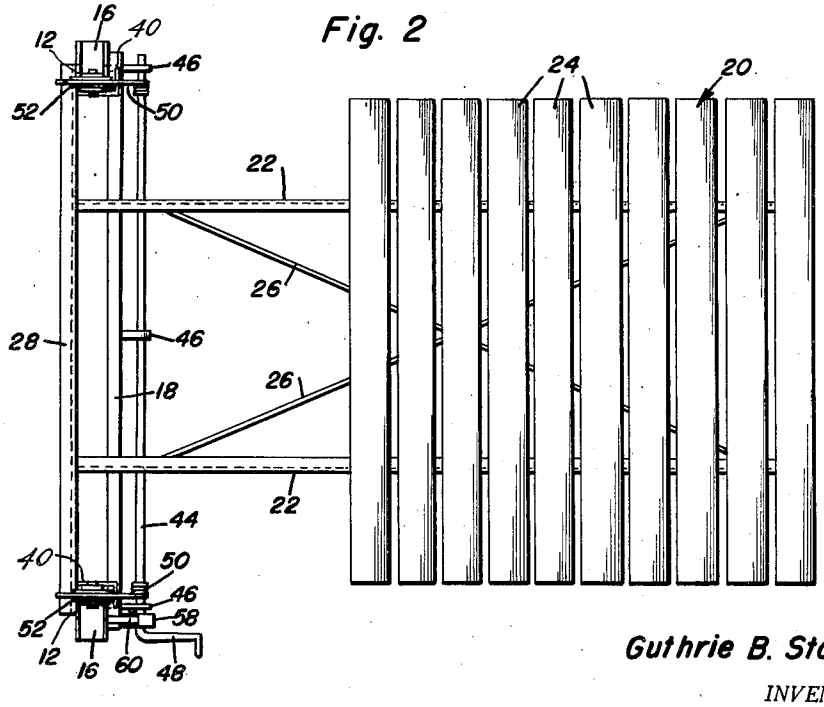


Fig. 2



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Fig. 3

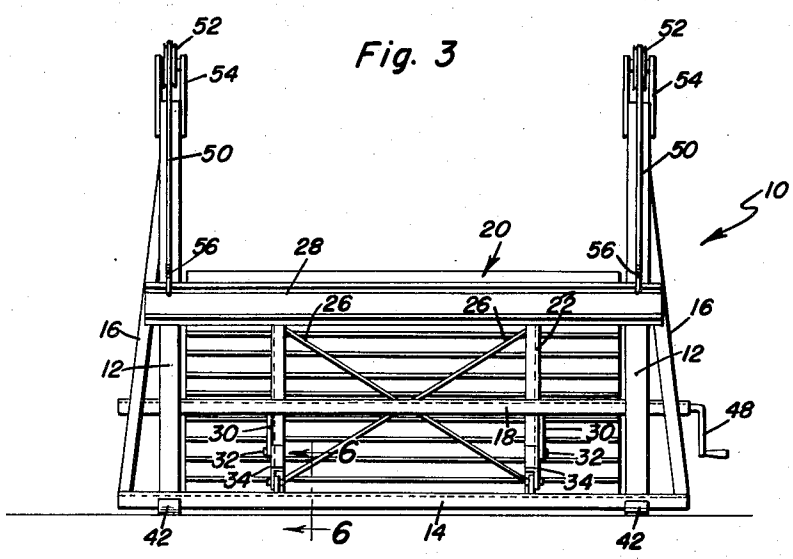


Fig. 4

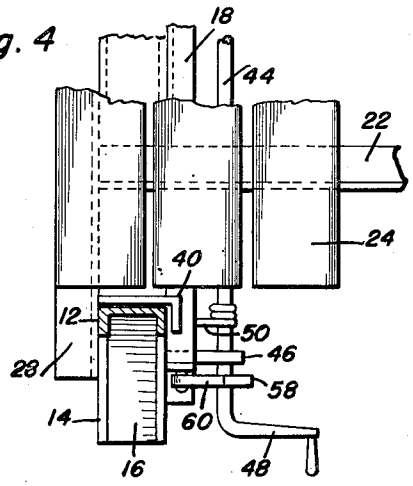


Fig. 5

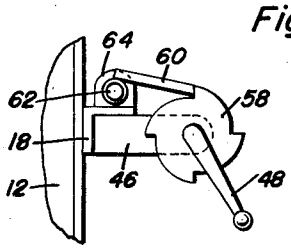


Fig. 6

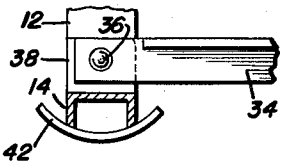
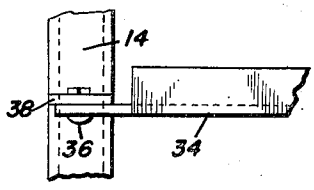


Fig. 7



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ADJUSTABLE RAMP

Guthrie B. Stone, Springwater, N. Y.

Application May 11, 1950, Serial No. 161,278

2 Claims. (Cl. 14—72)

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This invention relates to new and useful improvements and structural refinements in ramps, and the principal object of the invention is to facilitate convenient and expeditious loading of tractors, machinery, cattle, barrels, etc., on trucks or trailers or into doorways, wherever there is a necessity of raising the load from the ground to an elevated position.

This object is achieved by the provision of the instant ramp which embodies in its construction a pair of spaced side members and an inclined runway connected at its upper end to the side members, an important feature of the invention residing in the provision of means for raising and lowering the runway so that it may be properly adjusted to any predetermined loading or unloading height.

Some of the advantages of the invention reside in its simplicity of construction, in its efficient and dependable operation, in its durability, and in its adaptability to economical manufacture.

With the above more important objects and features in view and such other objects and features as will become apparent as the specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevational view of the invention;

Figure 2 is a top plan view thereof, a portion of the runway being removed;

Figure 3 is an end view, taken in the direction of the arrow 3 in Figure 1;

Figure 4 is a fragmentary sectional detail, taken substantially in the plane of the line 4—4 in Figure 1;

Figure 5 is a detailed elevational view of the ratchet mechanism used in the invention;

Figure 6 is a sectional detail, taken substantially in the plane of the line 6—6 in Figure 3, and

Figure 7 is a sectional detail, taken substantially in the plane of the line 7—7 in Figure 1.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of an adjustable ramp designated generally by the reference character 10, the same embodying in its construction a pair of spaced side members which are preferably in the form of U-shaped channels 12 and are rigidly secured together at their lower ends by a cross member or bar 14 which projects laterally beyond the side members and carries a

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pair of convergent reinforcing struts 16 extending toward upper end portions of the side members, as will be clearly apparent.

The members 12, 14, 16 are preferably secured together by welding, or the like, and a second cross bar 18 is similarly secured to intermediate portions of the side members 12, above the cross bar 14.

An inclined runway 20 consists of a pair of truss members 22 which are rigidly secured together by a plurality of transversely extending planks 24 and by a pair of diagonal tie rods 26, the planks 24 being suitably secured to upper edge portions of the truss members 22 and there being provided at the upper end of the runway 20 a transverse tie member 28 which is secured to the two trusses.

The trusses 22 include a pair of downwardly extending straps or members 30 (see Figure 1) which have pivotally connected thereto as at 32 a pair of reinforcing bars or braces 34, the latter being pivoted, in turn, as at 36 to a pair of brackets 38 rigidly secured to the aforementioned cross bar 14. It is to be noted that the members 30 are disposed intermediate the ends of the trusses 22 and, consequently, intermediate the ends of the runway 20.

The tie member 28 of the runway 20 is provided with a pair of transversely spaced, angular guides 40 which coact with the tie bar 28 in loosely and slidably embracing the side members 12, so that the runway 20 may be lowered or raised notwithstanding its pivotal connection to the side members by the braces 34. The guides 40 are sufficiently loose on the side members 12 to facilitate this raising and lowering movement of the runway, but at the same time, are of such dimensions as to prevent excessive play between the runway and the side members. Under the circumstances, the side members 12 are provided at their lower ends with arcuate rocker shoes 42 which rest upon the ground and are disposed in plane parallel to the runway 20, so that when the runway is raised or lowered, any movement such as may not be absorbed by the slidability of the guides 40 on the side members, may cause the rocker shoes 42 to skid longitudinally on the ground.

Raising and lowering of the runway 20 is effected by means of a transverse shaft 44 which is rotatably journalled in suitable brackets 46 affixed to the cross bar 18, the shaft 44 being provided at one end thereof with a crank handle 48 while a pair of cables 50 are windable on the shaft, substantially as shown.

These cables pass over rotatable pulleys **52** mounted in suitable brackets **54** affixed to the upper ends of the side members **12**, and the free ends of the cables are anchored as at **56** to the tie rod **28** of the runway **20**, so that by simply rotating the crank handle **48**, the runway may be raised or lowered at its inner end to a predetermined height before loading or unloading operations.

The shaft **44** also carries a ratchet **58** which is engaged by a pawl **60**, pivoted as at **62** to a bracket **64** on the cross bar **18**, (see Figure 5) whereby the shaft **44** may be releasably prevented from rotating in one direction, that is, in a direction such as would permit the runway to be accidentally or unintentionally lowered.

It is believed that the advantages and use of the invention will be clearly apparent from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. In an adjustable ramp, the combination of a pair of spaced side members, a cross bar rigidly securing the same together, ground engaging rocker shoes provided at the lower ends of said side members, an inclined runway having its lower end resting on the ground, a pair of guides provided at the upper end of said runway, said guides loosely and slidably engaging intermediate portions of the respective side members above said cross bar, said runway being provided at the underside thereof with an elongated depending frame, a brace pivotally connected to said cross bar and to the central portion of said frame, and means on said side members for raising and lowering the guided upper end of said runway.

2. The device as defined in claim 1 wherein each of said shoes comprises an arcuate rocker disposed longitudinally in a plane parallel to the median plane of said runway.

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The following references are of record in the file of this patent:

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